

Listing of Claims:

Claims 1-29 (Canceled).

30. (Currently Amended) An ophthalmologic instrument for measuring aberrations of a human eye, comprising:

a point light source which is projected onto a retina of the eye to create a virtual light source thereon, wherein radiation of the virtual light source is scattered by the retina and then passes through optical systems of the eye and becomes phase-modulated, and wherein the modulation corresponds to a total of optical aberrations of the eye;

a measuring system for measuring a shape of a wavefront of the radiation leaving the eye, and outputting an output signal to a control system of the instrument;

a system for compensating for said aberrations, located between the eye and the measuring system and transmitting the radiation leaving the eye, wherein said system comprises a refraction compensator that controls focusing of the radiation scattered by the retina and an astigmatism compensator located at an image plane of a pupil of the eye, wherein the astigmatism compensator comprises: (i) one of two cylindrical lenses of opposite signs and two toric lenses of opposite signs, wherein said lenses are independently rotatable around an optical axis of

the compensator, and (ii) a system for setting initial turning angles of said lenses; and

25 a projector of test patterns, which, jointly with said refraction compensator and astigmatism compensator, projects an image of a test pattern onto the retina.

31. (Previously Presented) The instrument of claim 30, wherein the refraction compensator comprises a movable prism and a dichroic mirror which are placed between two lenses, and wherein said dichroic mirror is operable as a beam-splitter to
5 align the instrument.

Claim 32 (Canceled).

33. (Previously Presented) The instrument of claim 30, further comprising a built-in automatic calibration system which uses an additional virtual light source as a test element to measure current positions of the compensators.

34. (Previously Presented) The instrument of claim 30, further comprising an alignment system which adjusts a proper distance between the eye and the instrument.

35. (Currently Amended) An ophthalmologic instrument for measuring aberrations of a human eye, comprising:

a point light source which is projected onto a retina of the eye to create a virtual light source thereon, wherein radiation of the virtual light source is scattered by the retina and then passes through optical systems of the eye and becomes phase-modulated, and wherein the modulation corresponds to a total of optical aberrations of the eye;

a measuring system for measuring a shape of a wavefront of the radiation leaving the eye, and outputting an output signal to a control system of the instrument;

a system for compensating for said aberrations, located between the eye and the measuring system and transmitting the radiation leaving the eye, wherein said system comprises a refraction compensator that controls focusing of the radiation scattered by the retina, an astigmatism compensator located at an image plane of a pupil of the eye, and a compensator of high-order aberrations, wherein the astigmatism compensator comprises: (i) one of two cylindrical lenses of opposite signs and two toric lenses of opposite signs, wherein said lenses are independently rotatable around an optical axis of the compensator, and (ii) a system for setting initial turning angles of said lenses; and

25 a projector of test patterns, which, jointly with said
refraction compensator, astigmatism compensator and compensator
of high-order aberrations, projects an image of a test pattern
onto the retina.

36. (Previously Presented) The instrument of claim 35,
wherein the refraction compensator comprises a movable prism and
a dichroic mirror which are placed between two lenses, and
wherein said dichroic mirror is operable as a beam-splitter to
5 align the instrument.

Claim 37 (Canceled).

38. (Previously Presented) The instrument of claim 35,
further comprising a built-in automatic calibration system which
uses an additional virtual light source as a test element to
measure current positions of the compensators.

39. (Previously Presented) The instrument of claim 35,
further comprising an alignment system which adjusts a proper
distance between the eye and the instrument.

Claims 40-43 (Canceled).